

DISCUSSION OF THE CLAIMS

Claims 1-3, 6-11 and 13-21 are pending in the present application. Claims 11 and 13 are presently withdrawn from consideration. Claim 7 is amended for matters of form.

Claims 19-21 are new claims. Support for new Claim 19 is found in the previously presented and original claims. Support for new Claims 20 and 21 is found in the examples of the present specification and, for example, in paragraphs [0058]-[0061] of the pre-grant publication corresponding with the present application, i.e., U.S. 2006/0270800.

No new matter is added.

REMARKS/

The present claims are drawn to a molding composition that includes “a mixture of interpenetrating polymers”. It is thus an explicit requirement of the claimed invention that the polymers have an “interpenetrating” structure. Applicants submit that those of ordinary skill in the art readily understand the structure imparted to the claimed invention by this term. A definition of the term “interpenetrating polymer” as it is defined in the IUPAC Compendium of Chemical Terminology (available on line at <http://old.iupac.org/publications/compendium/I.html>) is attached. Applicants submit that it is clear to those skill of skill in the art that an “interpenetrating polymer network” is a term that is recognized by those of skill in the art as having a particular structure distinguished from mixtures of polymers that do not have an interpenetrating structure.

The Office rejected the previously presented claims as anticipated by Kanegafuchi ‘341 (JP 2002-105341) and Kanegafuchi ‘607 (JP 11-189607). The rejection of the presently claimed molding composition is not supportable because Kanegafuchi ‘341 and Kanegafuchi ‘607 do not describe a mixture of polymers having an interpenetrating network structure.

Applicants draw the Office’s attention to new dependent Claims 20 and 21. New Claim 20 includes a product-by-process limitation in which the polyisobutene polymer is crosslinked at the same time the monomer units of the reinforcing polymer are polymerized. This embodiment of the invention is described, for example, in Example 1 of the present specification.

New dependent Claim 21 recites a product-by-process feature in which the molding composition is obtained by crosslinking the monomer units of the reinforcing polymer in the cross-linked polyisobutene. This aspect of the invention is described, for example, in Example 3 of the original specification.

Applicants submit that withdrawal of the rejection and the allowance of all now-pending claims is appropriate in view of the cited art's silence with respect to an interpenetrating polymer network.

Kanegafuchi '341 describes a composition that is not an interpenetrating network. For example, the Kanegafuchi '341 product is obtained by mixing an already-polymerized and cured reinforcing polymer (e.g., SEBS (styrene-ethylene-butylene-styrene)) with a mixture comprising a polyisobutene and a crosslinking agent (see the examples in the English machine translation of Kanegafuchi '341). Here it is evident that there is no curing or polymerization of monomer units of a reinforcing polymer because the reinforcing polymer is already in a fully polymerized form.

As defined in the IUPAC definition of the term "interpenetrating polymer network", the compositions of Kanegafuchi '341 do not have an interpenetrating polymer network structure because these compositions are mixtures of two polymers and form structures that are expressly excluded from the definition of interpenetrating polymer network provided by IUPAC.

Kanegafuchi '607 likewise fails to disclose a polymer composition having an interpenetrating polymer network structure. The resin particles of Kanegafuchi '607 are made by first crosslinking a polymer in the absence of conditions which would cause a vinyl monomer to polymerize (see the Abstract of Kanegafuchi '607). After a first polymer is crosslinked, a mixture of the crosslinked product and a vinyl monomer is emulsified in an aqueous medium and then subjected to radical polymerization such that an interpenetrating polymer network is not formed.

The IUPAC defines an interpenetrating polymer network as follows:

Polymer comprising two or more polymer networks which are at least partially interlaced on a molecular scale, but not covalently

bonded to each other and cannot be separated unless chemical bonds are broken.

No covalent bonds exist between the two polymer networks of a interpenetrating polymer network. This stands in sharp contrast to the compositions of Kanegafuchi '607 which include cross-linking (i.e., covalent bonds) between networks. Kanegafuchi '607 uses a crosslinking agent identified as (C) which is capable of reacting with the functional groups of polymer (A). The crosslinking agent (C) is co-polymerized with the monomers of polymer (A) and the subsequent reaction of polymers (A) and (B) leads to crosslinking between the different polymers of the different networks (see paragraphs [0007] and [0008] of Kanegafuchi '607).

The Kanegafuchi '607 composition is thus not an interpenetrating polymer network.

For the reasons discussed above in detail, Applicants submit that the cited art is silent with respect to the formation of any interpenetrating polymer network and thus the rejection should properly be withdrawn.

Applicants thank Examiner Zemel for the helpful and courteous discussion of April 14, 2010 with Applicants' U.S. representative. During the discussion Applicants' representative pointed out that the claims of the present application require an interpenetrating polymer network structure.

REQUEST FOR REJOINDER

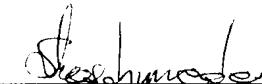
After finding allowable subject matter, the Office is requested to rejoin Claims 11 and 13, presently withdrawn from consideration, and pass such claims to allowance. Claims 11 and 13 ultimately depend from Claim 1 and thus must include all of the limitations of at least Claim 1.

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